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NIST STEP
Documents
Configuration
Management
System User's
Guide

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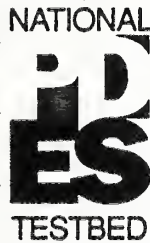
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NIST STEP Documents Configuration Management System User's Guide

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1.0 Overview

As part of the SC4 Secretariat activities sponsored by NIST, and in response to a request from the SC4 Editing Committee, a configuration management system for the STEP documents is being developed. This User's Guide describes the system now in place. In the future, a more comprehensive configuration management system will be provided.

This User's Guide is intended for IGES/PDES Organization (IPO) users who want to access the STEP documents. It assumes some familiarity with DOS and PC's, but requires no previous knowledge of the Tandem computer on which the STEP documents are actually stored.

The configuration management system described herein provides the user with the capability to view the hierarchy of the Parts of the STEP documents online, to check out any file for read-only purposes, and, if he or she is the designated owner of a file, to check that file out for edit purposes, make changes to the file on a PC, and check the new version back in. Only one user can have a file checked out for edit purposes at a time; until it is checked back in, the file remains locked to other users except for read-only purposes. The system also allows the user to view any document's check-in and check-out history.

The NIST STEP Documents Configuration Management System serves to maintain the integrity of the current STEP documents on- line and to record the history of changes made in each part of the documents. Users with ownership privileges are the only users who can make changes in a file. The system ensures that changes made by one authorized user are not inadvertently overwritten by another user. That is, only one authorized user at a time can have a portion of the document (a file) checked out for edit purposes. Any user can read any portion of the STEP documents at any time.

The NIST STEP Documents Configuration Management System consists of two parts: CONTROL and IXF (Information Exchange Facility). The CONTROL portion of the system handles the actual configuration management of the Parts of the STEP documents on the Tandem computer where they are stored. CONTROL can be accessed through a personal computer (PC) by using a Tandem terminal emulator program available from NIST. CONTROL is used to check out a file from the NIST STEP Documents Configuration Management System to a file on your personal directory on the Tandem computer and to return a file from your personal directory on the Tandem computer to the CM system..

The IXF portion of the system is used to transfer the file from your directory on the Tandem to your PC. Similarly, after the editing process is completed, IXF is used to transfer the new version of the file from your PC back to the Tandem. The IXF utility is provided as part of the terminal emulator package.

2.0 Getting Started

2.1 NIST Contacts

Please contact Gaylen Rinaudot at (301)975-3386 if you have questions concerning the procedures outlined in this document.

2.2 Obtaining a User ID

Please contact Gaylen Rinaudot at (301)975-3386 to obtain Tandem software and register yourself as a user on the NIST system.

3.0 Using CONTROL (TM)

3.1 The CONTROL Environment

Accessing the Tandem Computer

1. Install the PC Emulator on your PC by following the instructions in Appendix A on page 10.
2. To invoke the Tandem terminal emulator from your \PCT directory, type in:

```
PCT
```

and hit the <Enter> key. (For the remainder of this User's Guide, hitting the <Enter> key after each command will be assumed.)

At the "Enter Choice>" prompt, type in :

TACL

3. After you have obtained a userid and password from the NIST contact (see Section 2.2), at the "TACL 1>" prompt, type in:

```
LOGON youruserid, yourpassword
```

Substitute your real userid and password for the words "youruserid" and "yourpassword" in the command.

Note that upper and lower case letters contained in your password must be typed in exactly. For all other commands, both on the Tandem computer and within CONTROL, upper and lower case do not matter.

The emulator allows you to toggle back and forth between the Tandem and PC environments. To leave the Tandem environment (but leave the connection to the Tandem open) at the Tandem prompt, hit the Alt- End keys. This will return you to DOS. From the DOS prompt, to return to the Tandem, type in:

```
EXIT
```

When performing file transfers from the PC's IXF program (details in section 3.3.3, "Check out and Check in Commands"), you will want to have the Tandem connection open. To close the Tandem connection completely, from the Tandem prompt (>), do Ctrl-End instead of Alt-End.

Entering CONTROL

As soon as you have gained access to the Tandem computer, you must specify the directory in which you will be working. The STEP documents are stored in $DATA4.STEP. Alternatively, you may use $DATA4.LEARN for your initial practice sessions (see Practicing the CONTROL Commands on page 9.) Since, when you first log on, you will be on your own "home" directory, you must explicitly change to the directory (or "volume") that contains the STEP documents.

At the Tandem prompt (>), type in:

```
VOLUME $DATA4.STEP
```

(or if you're just starting to learn the system: VOLUME $DATA4.LEARN)

The Tandem prompt (>) will be returned. Then type in:

```
CONTROL
```

The system will return the copyright banner of the CONTROL software product, and then issue the CONTROL prompt character (-).

Exiting CONTROL

At the CONTROL prompt (-), type in:

```
EXIT
```

(or just E.)

The Tandem prompt (>) will be returned.

Exiting the Tandem Computer

From the Tandem prompt (>), type in:

```
LOGOFF
```

Organization of the STEP Documents Under CONTROL

The STEP documents are stored on a Tandem disk called $DATA4 under a directory called STEP. In Tandem terminology, $DATA4 is the volume and STEP is the subvolume. Under CONTROL, there are 11 "catalogs" in the STEP subvolume, which correspond exactly to the 11 Parts of the STEP documents (Frankfurt version). Each Part (or Catalog) contains several files. Under the NIST system, the naming convention for catalogs of numbered Parts of the STEP documents is "CAT" plus the Part Number (e.g., CAT41 contains the files of Part 41 of the STEP documents). The list of the Parts of the STEP documents under configuration control is provided in Appendix B.

3.2 On-line HELP with CONTROL Commands

On-line HELP is available at any time from within CONTROL. All the commands necessary for STEP users are explained within this User's Guide. However, the on-line HELP may be more convenient as a reminder once you learn to use the system. To list all the CONTROL commands, type in:

```
HELP ALL
```

(Many of these commands will not be necessary for the STEP user.) To list the HELP available for a specific command, type in:

```
HELP commandname
```

substituting the name of the command for which you want help for "commandname" (e.g., HELP PRODUCE). The command syntax, as well as an explanation of the command usage, will follow. Then the CONTROL prompt (-) will be returned.

3.3   Using CONTROL Commands to Access the STEP Documents

3.3.1 Level-of-Hierarchy Commands

Upon entering CONTROL, enter the proper volume and subvolume for accessing
STEP (VOLUME $DATA4.STEP).

To list all the catalogs (Parts of the STEP documents), type in:

?CATALOGS

The system will return:

$DATA4.STEP

followed by a list of the catalogs in that subvolume.

To access a particular Part of the STEP documents, type in:

CATALOG catname

or just

CAT catname

substituting the desired Part name for "catname" (for example, CAT CAT41). You are
then "within" that catalog. The CONTROL prompt (-) will be returned. To list the files
within the current catalog, type in:

FILES

The system will return:

\NIST.$DATA4.STEP -

followed by a list of the files in the current catalog. To access a particular file, type in :

FILE filename

substituting the name of the desired file for "filename" (e.g., FILE TYPEDEFI).

3.3.2 Information Commands

Information commands can be submitted at any level within the CONTROL hierarchy.
At the Catalog level (within a particular Part of the STEP documents), the LIST command can be used to list the files within the current catalog and information about them.

At the File level, the SHOW command can be used to show the versions of that particular file. (L) next to a file name shows that it is currently locked (checked out for edit).

Catalog (Part) Level

To obtain information about the files in the current catalog, type in:

```
LIST
```

or

```
HISTORY
```

File Level

To obtain information about the versions of the current file, type in:

```
SHOW ALL, REASONS
```

3.3.3 Check out and Check In Commands

Read-only Check out

To check out a file for read-only purposes:

1. Select the catalog which contains that file (e.g., CAT CAT101).
2. Select the desired file (e.g., FILE DRAFTING).
3. If desired, do a SHOW ALL, REASONS command to view the versions of the file available.
4. Type in:

```
PRODUCE version TO yourfilename
```

substituting either the version number (e.g., 1.0) or the word LATEST for "version", and substituting the name that you want the STEP file copied to on the Tandem (e.g., $DATA1.SANDRA.DRAFTING) for "yourfilename".

Examples:

```
PRODUCE 1.0 to $DATA2.DOUG.*
```

(* gives it the same file name as it had within CONTROL, but on your subvolume)

```
PRODUCE LATEST to $DATA1.RALPH.MATERIAL
```

Then, exit CONTROL (type in: EXIT).

5. Use the IXF Command to transfer your Tandem file to your PC as follows:

First, make sure the connection to the Tandem is open (see Section 3.1). Enter Alt-End to toggle back to the PC environment. Go to your \PCT directory. Then, at the DOS prompt, type in:

```
IXF GET tandemfilename AS pcfilename
```

substituting your fully qualified TANDEM file name for "tandemfilename" and your destination PC file name for "pcfilename". For example:

```
IXF GET $DATA4.JANE.DRAFTING AS \JANE\DRAFTING.TXT
```

or

```
IXF GET $DATA3.JIM.MATERIAL AS A:MATERIAL
```

(to copy to a floppy disk).

Check Out for Edit

To check out a file for edit purposes (to make changes):

1. Select the catalog which contains that file (e.g., CAT CAT101).
2. Select the desired file (e.g., FILE DRAFTING).
3. If desired, do a SHOW ALL, REASONS command to view the versions of the file available.
4. Type in:

```
PRODUCE version TO yourfilename, FOR EDIT
```

substituting either the version number (e.g., 1.0) or the word LATEST for "version", and substituting the name that you want the STEP file copied to for "yourfilename" (e.g., $DATA1.SANDRA.DRAFTING).

Examples:

```
Produce 1.0 to $DATA2.DOUG.*, FOR EDIT
```

(* gives it the same file name as it had within CONTROL, but on your subvolume.)

```
PRODUCE LATEST to $DATA1.MATERIAL, FOR EDIT
```

Then, exit CONTROL (type in: EXIT).

5. Use the IXF Command to transfer your Tandem file to your PC as follows:

First, make sure the connection to the Tandem is open (see Section 3.1). Enter Alt-End to toggle back to the PC environment. Go to your \PCT directory. Then, at the DOS prompt, type in:

```
IXF GET tandemfilename AS pcfilename
```

substituting your fully qualified Tandem file name for "tandemfilename" and your destination PC file name for "pcfilename". For example:

```
IXF GET $DATA4.ANN.DRAFTING AS DRAFTING
```

or

```
IXF GET $DATA2.TONY.ELECTRIC AS B:\TONY\ELECTRIC.WP
```

(to copy to a directory on floppy disk).

Checking Out All the Files In A Catalog

To check out all the files in a catalog, (i.e., a whole part), use the GROUP PRODUCE command instead of the PRODUCE command in the instructions in the above sections. For example:

```
GROUP PRODUCE LATEST TO $DATA4.BILL
```

or to check out all the files in a catalog for a particular version:

```
GROUP PRODUCE 1.0 TO $DATA4.KATE, FOR EDIT
```

Check In

To check a file back in after it has been updated:

1. Use the IXF Command to transfer your edited file from your PC back to your home directory on the Tandem as follows:

First, make sure the connection to the Tandem is open (see Section 3.1). Go to your \PCT directory. Then at the DOS prompt, type in:

IXF PUT pcfilename AS tandemfilename

Substituting your fully qualified PC file name for "pcfilename" and your destination Tandem filename for "tandemfilename". For example:

IXF PUT DRAFTING.TXT AS $DATA2.JOHN.DRAFTING

2. Return to the Tandem environment by typing in:

```
EXIT
```

at the DOS prompt.

3. At the Tandem prompt, type in:

CONTROL

4. Select the catalog which contains that file (e.g., CAT CAT101).

5. Select the desired file, (e.g., FILE DRAFTING).

6. If desired, do a SHOW ALL, REASONS command to view the versions of the file currently on line.

7. Type in:

TEXT

You will get a + for a prompt. Type in the reason for the change, then hit return. You can type in as many lines as you need for the explanation. When you are done, at the next + prompt, type in:

//

8. Type in:

SUBMIT yourfilename TO version

substituting your fully qualified Tandem file name for "yourfilename" (e.g., $DATA1.SANDRA.DRAFTING) and the proper version number (e.g., 1.0) or the word LATEST for "version".

Note that a SUBMIT can only be done by the authorized user who checked the file out for edit purposes. If the file was checked out read-only, or if it was checked out for edit but no actual changes were made, then the SUBMIT will not be accepted. If a GROUP PRODUCE has been done, each file must still be submitted individually, so that the appropriate reason for change is entered for each file.

4.0 Approval Level Commands

There are six approval levels used for the STEP documents. They are known to CONTROL by their level numbers. The six levels are:

1.00 - WORKING

2.00 - SG WORKING

3.00 - Approved by Subgroup

4.00 - Approved by WG1

5.00 - Approved by Editing

6.00 - SC4 Balloting

To "promote" the latest version (e.g., 2.04) to the next approval level (3.00, in this case), type in:

```
RELEASE!
```

5.0 Practicing the CONTROL Commands

A "practice" subvolume called $DATA4.LEARN has been set up on the Tandem. This subvolume may be accessed by any user. It contains the full set of STEP documents, under CONTROL. Please feel free to change anything in these files. However, also please note that the contents of the files will not remain stable, since they are also being accessed by other users.

Appendix A

Installing the Tandem Terminal Emulator on Your PC

1. Create a directory on your PC's hard disk and copy the files from the floppy disk provided by NIST into it. For example:

```
> MD C:\PCT
```

```
> COPY A:*.* C:\PCT
```

2. Modify your CONFIG.SYS file on your PC's root directory (C:\ ) to include one of the following two lines:

If you are using COM1:

```
DEVICE=C:\PCT\ASYNDRVR.SYS PORT=1, NAME=ASYNC1
```

If you are using COM2:

```
DEVICE=C:\PCT\ASYNDRVR.SYS PORT=2, NAME=ASYNC2
```

NOTE: If you are using COM2, you must also put the following line in your AUTOEXEC.BAT file (also on your root directory):

```
SET ASYNC1=ASYNC2
```

3. Reboot the system (Ctrl-Alt-Del) so that these commands take effect.
4. Change to the \PCT directory:

```
> CD \PCT
```

and use either an ASCII text editor or the PCTC (PCT configuration) program to set the parameters appropriate for your PC. If you want to use the PCTC program, just type in:

```
PCTC
```

Then follow the instructions on the screen. For most of the parameters, the defaults can be used. Only the ones that need to be changed are listed here:

Parameter Name:	Correct Value:
DEVICE_NAME	ASYNC1 (or ASYNC2)
TRANSMIT_LINE	<the correct phone number sequence>
POWER_ON_MODE	CONV
KEYBOARD	6AX (if you're using a standard 101)
EXEC_FUNCTION	ON
UNDERLINE_MAPPING	ON
COLOR_MAPPING	ON (OFF if you have monochrome)
BAUD_RATE	(set to your modem's speed)
CHAR_SIZE	8
PARITY	NONE
XON_XOFF	OFF

Each of these and the other parameters is fully explained in the Tandem PC6530 manual provided by NIST.Note: If desired, the \PCT direcory can be put into the DOS search path (see the PATH command in your DOS manual).

5. The Terminal Emulator is now ready to be used.

Appendix B **Parts of the STEP Documents Under the CONTROL System**

The following list of 11 Parts exists in two places on the Tandem; one copy is in $DATA4.STEP, the other is in $DATA4.LEARN. Each Part is stored as a catalog under CONTROL.

Catalog Name	Part Number	Part Name
latex	n/a	Latex
cat41	41	Miscellaneous Resources
cat42	42	Shape (Geometry, Topology, Shape Solids)
cat43	43	Shape 2 (Features, Tolerances, Shape Interference)
cat44	44	Aggregations (PSCM, AEC Core, Shape Design)
cat45	45	Material
cat46	46	Presentation
cat101	101	Drafting
cat102	102	Ship Structures
cat103	103	Electrical
cat104	104	Finite Element Model

Appendix C   Examples of Output from Control Commands

```
CONTROL(TM) Version 10.07 13APR1990 13:42:25

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-HELP ALL

Global Commands -

 CATALOG COMMENT EXIT FC HELP INDEX

 PURGE VOLUME WHO XVOLUME ?CATALOGS ?DATAFILES

 ?FILES

Catalog Commands -

 ABSTRACT ADD CREATE DROP FILE FILES

 GROUP HISTORY LIST RENAME SYS RELEASE


File Commands -


 ADDUSER APPROVAL COMPACT COMPILE DECLARE DEFINEKEY

 DELUSER DESCRIBE DUMP EXCLUDE FIND INCLUDE

 LANGUAGE MODIFY OPTION PRODUCE RELEASE SHOW

 SUBMIT TEXT UNLOCK

 USERS


-HELP PRODUCE

 PRODUCE <version> [TO <output *file*>[!]] [,<condition>,...]

 or

 PRODUCE SOURCE OF <objfile> [TO <output *file*>[!]] [,<condition>,...]

 where <condition> ::= FOR EDIT (locks version; keywords not replaced)

 NO PURGE (appends output to existing file
```

```
NO REPLACE (keywords not replaced)

SIDELINE [FROM <version>] (identifies changed lines)

TAG [FROM <version>] (for TGAL files only)


and <objfile> is the Tandem filename of an object created by the COMPILE

command.


Produces a copy of the specified version of the current Datafile to the

specified output file or device. If the SOURCE OF form is used, the

Object Catalog is searched for a record matching the fingerprint and

timestamp of the specified file, and the source corresponding to that

record is produced.


-?CATALOGS

$DATA4.STEP


CAT101 CAT102 CAT103 CAT104 CAT41 CAT42 CAT43 CAT44

CAT45 CAT46 LATEX


>CONTROL

CONTROL(TM) Version 10.07 13APR1990 13:42:25

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-

-CAT CAT46

-LIST
```

```
PAGE 1 CONTROL FILE-$DATA4.STEP.CAT46 13APR1990 13:33:50

LIST OF FILES

CATALOG - $DATA4.STEP.CAT46

ABSTRACT: STEP Document, Part 46
                   •


FILE NAME            LANGUAGE             CREATOR

----------------------------------------------------------------

$DATA4.STEP.PART46   LATEX                SUPER.SUPER

DESCRIPTION: Text of Part 46 of STEP Document


$DATA4.STEP.TITLE46  LATEX                SUPER.SUPER

DESCRIPTION: Title of Part 46 of STEP Document


$DATA4.STEP.PRESENTA LATEX                SUPER.SUPER

DESCRIPTION: Presentation


-CAT CAT46

-FILES

PAGE 1 CONTROL FILE-$DATA4.STEP.CAT46 13APR1990 13:36:09


\NIST.$DATA4.STEP -

PART46 PRESENTA TITLE46
```

```
-FILE DRAFTING


PAGE 1 CONTROL FILE-$DATA4.STEP.DRAFTING 13APR1990 13:38:52


LIST OF VERSIONS FOR FILE $DATA4.STEP.DRAFTING

ALL RELEASES


 VERSION DATE OPTION NAMED LOCKER FLAGS

-----------------------------------------------------------------

1.00 11JAN1990

MODIFIED BY SUPER.SUPER

INITIAL VERSION


2.00 02FEB1990

MODIFIED BY SUPER.SUPER

changed wording for clarity

2.01 05FEB1990 LATEST

MODIFIED BY SUPER.SUPER

test submittal


-cat cat101

-group produce latest to $data1.test.*

-FILE $DATA4.STEP.PART101; PRODUCE LATEST TO $DATA1.TEST.*

-FILE $DATA4.STEP.TITLE101; PRODUCE LATEST TO $DATA1.TEST.*

-FILE $DATA4.STEP.DRAFTING; PRODUCE LATEST TO $DATA1.TEST.*

-e
```

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10. SUPPLEMENTARY NOTES

☐ Document describes a computer program; SF-185, FIPS Software Summary, is attached.

11. ABSTRACT (A 200-word or less factual summary of most significant information. If document includes a significant bibliography or literature survey, mention it here)

This brief User's Guide is intended to help ISO members access NIST's on-line version of the STEP documents. The STEP documents are now under a preliminary configuration control system on the TANDEM computer at NIST. The User's Guide explains how to access the TANDEM from a PC and how to use the Configuration Management System's commands to read, edit and re-enter the portions of the STEP documents under control.

12. KEY WORDS (Six to twelve entries; alphabetical order; capitalize only proper names; and separate key words by semicolons)

Configuration Control; Tandem, STEP, PDES, User Guide

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